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**BEFORE THE PUBLIC UTILITIES COMMISSION**
**OF THE STATE OF CALIFORNIA**

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| Application of Pacific Gas and Electric Company (U 39 E) For Approval of 2008-2020 Air Conditioning Direct Load Control Program | Application 07-04-009 |

# REPLY OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) TO PROTESTS OF THE DIVISION OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK

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**REPLY OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) TO PROTESTS OF THE DIVISION OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK**

## I. INTRODUCTION AND SUMMARY OF ARGUMENT

Pursuant to Rule 2.6 (e) of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, Pacific Gas and Electric Company (PG&E) replies to the protests of the Utility Reform Network (TURN) and the Division of Ratepayer Advocates (DRA) filed May 11, 2007. The two protests raise similar issues. TURN and DRA each question: (1) whether PG&E's proposed Air Conditioning Direct Load Control Program ("proposed program") should be approved, given its estimated cost; (2) whether a slower program roll out is appropriate; (3) whether PG&E's program design maximizes use of the advanced metering initiative (AMI) technology; and (4) whether the proposed program is sufficiently coordinated with the California Independent System Operator's (CAISO) procedures. TURN also requests clarification regarding the proposed program triggers. DRA objects to PG&E's proposal to record the expenses in the Demand Response Revenue Balancing Account and suggests that PG&E's shareholders absorb any budget shortfall.

The protests should be denied. PG&E's initial budget is reasonable for a program of this size, and its contracts resulted from a well-publicized competitive solicitation. PG&E's

cost-effectiveness estimate is based on several conservative assumptions. Based on the methodology used in PG&E's application, the cost/benefit ratio that the proposed program actually achieves may be significantly higher than that estimate. Furthermore, the Commission does not yet have an approved cost-effectiveness methodology for demand response programs. The cost-effectiveness methodology that the Commission ultimately adopts may show the program to be more cost effective than PG&E has estimated. DRA's comparison of the costs of the proposed program to those proposed by Southern California Edison (SCE) in Advice Letter AL 2034-E is flawed because the SCE proposal was very different and sought significantly less customer enrollment than PG&E's proposed program. The program roll out schedule should not be delayed because it is necessary to have the resources available in 2011 or 2012, when PG&E's forecasts show that the capacity may be needed. In addition, PG&E's proposed technology selection, which is initially independent of PG&E's AMI technology, is reasonable given the timing of the proposed program. As AMI deployment expands, PG&E will continue to evaluate emerging technology enhancements available in the market such as integrating load control. Finally, given the number of significant assumptions that are included in PG&E's budget proposal that are wholly based on consumer behavior, there is no reasonable basis to require PG&E's shareholders to absorb any budget overruns.

For these reasons and others discussed below, PG&E's application should be granted and the protests of DRA and TURN should be denied.

## II. DISCUSSION

### A. PG&E's Proposed Budget Is Reasonable and Should Be Approved.

DRA and TURN protest the application as not cost effective. DRA, pp. 3-4; TURN,

p. 1. The Commission noted in a recent demand response (DR) decision regarding agreements arising from PG&E's and SCE's DR solicitations that there is no approved DR cost-effectiveness methodology, and the methodology PG&E now uses to analyze DR proposals may undervalue DR resources:

> DRA commented that the Commission should consider the cost-effectiveness of the agreements. Unfortunately, we do not have sufficient information to determine whether or not these contracts are cost effective.
>
> The Commission has recently initiated R.07-01-041 to, among other things, '[e]stablish methodologies to determine the cost-effectiveness of DR programs.' Because the rulemaking has not yet explored this matter, at the direction of the assigned ALJ, PG&E and SCE performed cost-effectiveness analysis for the proposed agreements using protocols that are generally used for energy efficiency. . . . [T]he energy efficiency protocols miss many potential benefits of these demand response agreements. Avoided distribution and transmission costs and the option value of the contracts are among some potential benefits that the utilities did not value. The contracts could also generate significant local reliability benefits, which have not been quantified.[1/]

The methodology ultimately adopted by the Commission, which may require the utilities to include benefits excluded from PG&E's analysis, could indicate a significantly higher benefit ratio. The choice of the avoided marginal supply side resource for the analysis, could also significantly affect the benefit/cost ratio.[2/]

Further, PG&E's initial forecast of costs is simply a forecast, and its actual expenses

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1/ Decision 07-05-029, p. 13.

2/ PG&E's analysis assumed that the avoided resource would be an existing steam plant until 2010 and a new combustion turbine (CT) in later years. PG&E Opening Testimony, p. 6-2. As PG&E showed in Table 2 of its filing, the benefit ratio for the program is significantly higher if in every year the avoided marginal supply-side resource will be a new CT. *Id.*

could be significantly different.[3/] PG&E's customers will only pay for the costs of the program actually incurred. For example, while PG&E conservatively estimated that 60% of its customers would choose a programmable communicating thermostat (PCT) and 40% would choose an AC switch, customer selection might be quite different. Since the PCT is the more expensive alternative, both in terms of hardware cost and installation, if more than 40% of PG&E's customers select a switch over a PCT, the net benefits of the proposed program would increase.[4/] Also, PG&E built into its proposed budget a range for its one-time cash incentive for program. PG&E is currently marketing its 2007 program with a $25 cash incentive. PG&E's budget includes up to $50 for residential customers and $100 for other customers should the initial be incentive is insufficient to encourage customer participation. If, as PG&E's research indicates,[5/] the current incentive is sufficient to enroll customers, the program will be more cost effective than demonstrated in PG&E's analysis.

PG&E's conservative estimates of the load impact of its proposed program, in particular due to overlap with the Critical Peak Pricing program (CPP), also significantly decrease the program's benefit/cost ratio. While PG&E's proposed budget includes all the expenses associated with CPP customers who will elect to participate in the proposed program, its cost-effectiveness analysis does not include the expected load reductions from CPP customers in order to avoid including those attributed to CPP in other proceedings. Due to the CPP program overlap and other issues discussed in PG&E's opening testimony, PG&E is conservatively forecasting load relief of 0.75 kW from each load control device installed

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3/ Opening Testimony, 1-10 – 1-11, 7-9.

4/ Although the sample is small, the majority of customers who have signed up for PG&E's Summer 2007 program to date have selected the less expensive AC switch technology.

5/ Opening Testimony, pp. 2-10 to 2-13.

for a residential customer that participates in PG&E's program.[6/] If there is insignificant participation by CPP customers, PG&E's estimated load relief would significantly increase, to approximately 1 kW per device[7/], and the benefit/cost ratio would improve. The approximately 400,000 devices that PG&E proposes to install could potentially provide more load relief than PG&E estimated. For this reason, and other reasons discussed in PG&E's testimony, the actual load relief from each device could significantly increase from PG&E's initial estimates, and thereby increase program benefits.

In addition, the cumulative benefit/cost ratio that PG&E estimates the program will achieve over the period 2007 through 2020 does not reflect the additional benefits that will be provided by replacement devices installed after 2010 (due to the fact that the devices are expected to remain in operation for twenty years or more).

PG&E's program is the result of a competitive solicitation, and reflects market prices. It would be unfortunate for the Commission to deny PG&E's application on cost-effectiveness grounds, given that the program may be cost-effective under the methodology ultimately adopted, and the program's cost-effectiveness could significantly improve based on actual performance. Finally, the proposed program's cost effectiveness compares well to other programs that the Commission has approved for PG&E's DR portfolios.

### B. DRA's Comparison of PG&E's Proposed Budget to SCE's Proposed AC Program Expansion is Misplaced.

DRA claims that SCE's AL 2034-E to expand its AC Cycling Program by 300 MW

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6/ *Id.*, p. 4-5.

7/ *Id.*, The kW impact for residential customers presented in Table 4-4, p4-17 gave a range of CPP impacts of .12 kW to .65 kW. As a result, the incremental benefit of only the PCT or switch technology used in the estimation of AC program benefits for the 30% of residential customers assumed to be on both the CPP and AC programs was conservatively only .17 kW compared to the 1.10 kW in Table 4-3 p. 4-13.

demonstrates that PG&E's proposed budget of $362 million is much too high. DRA Protest, pp. 3-4. DRA's comparison between SCE's AL and PG&E's proposed budget is misplaced because the SCE's proposed expansion is not comparable to PG&E's proposal.

DRA's description of SCE's proposal is inaccurate. In AL 2034-E, SCE did not seek costs to install and maintain switches for 300 MW of load reduction. Instead, as Resolution E-4028 indicates, Edison sought $37.03 million to accelerate and expand its existing program, purchase and install 62,000 devices, increase marketing, and recover dormant devices. Resolution E-4028, p. 4. In contrast to Edison's AL, PG&E's proposed budget includes amounts sufficient to start up a program expected to achieve load reduction of approximately 300 MW through the installation of 400,000 devices. While DRA claims that the differences in the programs are even more glaring given the amount of SCE's annual customer incentives, SCE's $37 million proposed budget augmentation did not include the cost of implementing its program through 2020, nor did it include a contingency for attrition, as PG&E has proposed. SCE's $37 million request was for budget that would have been incremental to the $51.4 million it was previously authorized to spend during the 2006-08 program cycle to expand its program by 180,000 devices. Resolution E-4028, p. 9. SCE's proposal does not indicate that PG&E's proposal is overpriced.

**C. The Ambitious Roll Out Schedule Is Necessary.**

DRA suggests that the ambitious program roll out proposed by PG&E should decelerate to allow PG&E to incorporate the results of its 2007 program. DRA, p. 5. PG&E disagrees for a number of reasons. First, PG&E's 2007 AC Program is not a pilot program. There is plenty of nationwide data to support the program design and proceed with a full scale AC Program.

Second, contrary to DRA's suggestion, there is no need to wait for M&E results from the 2007 program to determine what, if any, changes should be made to the 2007 AC Program design or marketing strategy. This M&E activity will continue and the evaluation report will be considered as they are developed. PG&E's vendor contracts can be modified or terminated if it appears that a change in strategy is warranted. The program was intentionally designed to be flexible to changes based on customer feedback and performance and technological changes.

Third, as described in PG&E's testimony (p. 2-3), PG&E seeks a market penetration of 28% by the end of 2010. Baltimore Gas & Electric achieved a comparable market penetration for its AC program after five years. (*Id.*). SMUD's AC program achieved a 38% penetration rate after *ten* years. (*Id.,* p. 2-4). PG&E must begin its AC program now to achieve its proposed market penetration by 2011 or 2012, when the service area may require new resources. (*Id*., p. 6-2)

PG&E also disagrees with TURN's proposal to slow down the proposed procedural schedule. TURN, p. 3. PG&E is heavily marketing the 2007 program and filed an advice letter (Advice 3025-E-A) to obtain permission to continue to purchase and install up to 20,000 additional load control devices throughout the year. The 2007 AC program is intended to "jump start" the full-scale program and gain momentum for the larger program. Delaying or artificially slowing down a full-scale program rollout would result in lost program implementation momentum gained from the 2007 program. Any regulatory delays which destroy the intended seamlessness between the 2007 and 2008 programs would negatively impact the program installation timetable and potentially confuse and disassociate those customers interested in enrolling in the program.

### D. PG&E's Technology Selection Is Appropriate.

Both TURN and DRA question whether PG&E should roll out an AC program that is not reliant on the SmartMeter™ technology scheduled for installation as part of PG&E's AMI program. The timeframe in which PG&E is proposing to deploy the proposed program requires that a non-AMI technology be used, at least initially. The AMI project deployment is only just beginning, and coverage would be insufficient to support an extensive AC program in 2008. However, as AMI is deployed, PG&E will continue to evaluate integration of load control. This evaluation would also require assessment of the costs of using the AMI system compared to the costs of PG&E's selected AC load control technology.

Even though the two technologies are separate, however, PG&E intends to use the customer interval usage data generated by the AMI system. PG&E plans to utilize this data as part of its ongoing program operations to identify devices that are not functioning, to measure load drop of events and to help inform customers of their usage patterns.

It should also be noted that the SmartMeter™ communication networks selected by PG&E would require installation of compatible end use load control devices (such as switches and PCTs) before these systems would be capable of controlling end use loads like air conditioners. These devices were not part of the AMI project approved by the Commission. PG&E would therefore need to procure and install such end use devices to utilize the AMI communications systems for AC load control.

DRA also incorrectly assumes that PG&E will own the paging system and that there will be an overlap of PG&E-owned PCTs with customer-owned devices contemplated under proposed changes to the 2008 Title 24 standards. DRA, p. 6. Rather than own the communications network, PG&E will use commercial paging providers to communicate with end use devices. There are no final Title 24 regulations regarding PCTs and default communication protocols. The proposed Title 24 PCT standard would apply only to new construction and major retrofit applications where central AC may be installed. Conversely, PG&E's proposed program targets existing AC systems that already significantly contribute to PG&E's summer peak and would not be affected by Title 24.

### E. The Proposed Program Will Be Coordinated With The CAISO

Both TURN and DRA correctly note that PG&E's proposed program should be coordinated with the CAISO to ensure that the program will be a useful resource to the CAISO. PG&E has been discussing this program with the CAISO and will continue to do so. To address the CAISO's concern, PG&E proposed a program trigger that would allow the program to be called during a stage one emergency to prevent a stage two emergency or during a local emergency.[8/] With this trigger, the program should fully count towards PG&E's resource adequacy requirements.

### F. PG&E's Proposed Program Triggers Are Appropriate.

The flexible event triggers proposed by PG&E play an important role in the ultimate success of a load control program. PG&E's program is designed to maximize flexibility and strengthen grid reliability by insuring that dispatchable load relief is available when needed, and assure that PG&E will receive resource adequacy credit for this resource. PG&E proposes to trigger events if requested by the CAISO prior to a Stage 2 emergency in order to obviate the need for a Stage 2 alert or should events dictate a Stage 2 alert,[9/] during local emergencies similar to those circumstances during last summer's heat storm where energy

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8/ PG&E's Opening Testimony, pp. 2-9 to 2-10.

9/ *Id.*

supplies were adequate but local distribution systems were distressed, and during CPP event days for CPP customers who enroll in SmartAC.™[10] PG&E would trigger limited testing of its communications system for all participants and more limited testing for measurement and evaluation sample participants in order to conduct more robust program load impact evaluations.

### G. PG&E's Cost Recovery Proposal Is Appropriate.

DRA states that PG&E has not justified shielding its shareholders from any risk of overspending associated with the proposed program. DRA, p. 7. DRA misunderstands PG&E's intentions behind its proposed cost recovery mechanism. The DR program cycle is three years, whereas the timeframe for the AC Program is substantially longer, 2008-2020. PG&E anticipates implementing the AC program as quickly as possible, making it difficult accurately forecast the actual program costs for each year. PG&E plans to incorporate such a forecast, as well as any associated over- or under-collection in its Annual Electric True-Up (AET) filings. PG&E Opening Testimony, p.8-1. PG&E does not propose to recover costs associated with the AC Program in the DREBA because the overall AC Program budget is much larger than the current DR program budget. The AC Program budget for 2008 is 50 percent greater than PG&E's 2008 DR program budget. As PG&E discussed in its direct testimony, there are numerous assumptions and uncertainties beyond PG&E's control that could either increase or decrease program costs.[11] If the costs were recorded in the DREBA, and they were significantly greater than expected, it could place PG&E in danger of exceeding its authorized revenue requirement in the DREBA. This would punish shareholders for PG&E's efforts to implement the program quickly and potentially force

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10/ *Id.*, p. 2-10.

11/ *Id.,* p.7-9.

PG&E to reduce its other demand response programs for the remainder of the program cycle. Because it is a one-way balancing account, it is appropriate that the DREBA record only the generally predictable costs associated with program cycle budgets.

## III. CONCLUSION

PG&E requests the Commission to deny the protests of the Division of Ratepayer Advocates and The Utility Reform Network and approve PG&E's application, as filed.

Respectfully submitted,

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## CERTIFICATE OF SERVICE BY ELECTRONIC MAIL OR U.S. MAIL

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is Pacific Gas and Electric Company, Law Department B30A, 77 Beale Street, San Francisco, CA 94105.

I am readily familiar with the business practice of Pacific Gas and Electric Company for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence is deposited with the United States Postal Service the same day it is submitted for mailing.

On May 21, 2007, I served a true copy of:

Reply OF Pacific Gas and Electric Company (U 39 E) To Protests Of The Division Of Ratepayer Advocates And The Utility Reform Network

**[XX]** By Electronic Mail – serving the enclosed via e-mail transmission to each of the parties listed on the official service list for A.07-04-009 and the following individual:

Nina Suetake
The Utility Reform Network
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I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 21st day of May 2007 at San Francisco, California.

/s/
MARTIE WAY

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